

# PATENT ABSTRACTS OF JAPAN

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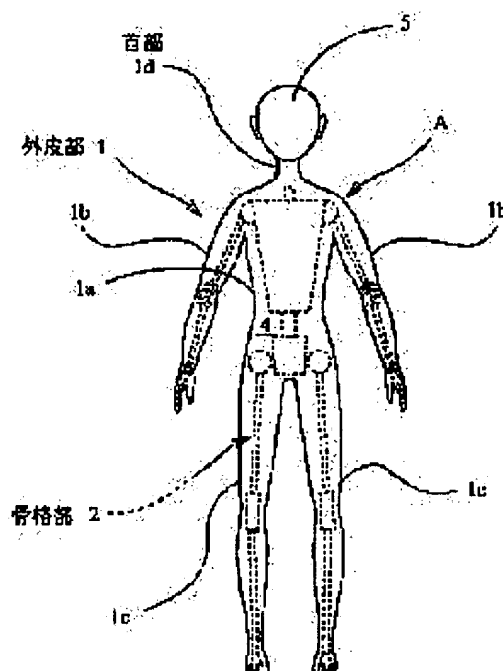
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## (54) PRODUCTION OF DOLL BODY

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To curve the curving sections of a doll body at a natural form by constituting the doll of a body part and foot parts, inserting skeleton parts of the doll into a hollow and highly stretchable integument part opened with a neck part and packing the inside of this integument part with a packing material.

**SOLUTION:** The doll A has the body part 1a, arm parts 1b and leg parts 1c formed of blanks having stretchability and is constituted by inserting the preassembled skeleton parts 2 consisting of synthetic resins, etc., into the integument part 1 opened with the neck part 1d. The integument part 1 is formed of a blank having the stretchability by injection molding so as to be opened at the neck part 1d. The doll body is formed by a method of inserting the skeleton parts 2 into the integument part 1 while expanding the aperture of the neck part 1d, then packing the packing material, such as high-polymer absorber, therein after the insertion and further, injecting water to expand the packing material. The doll is completed by mounting a head part 5 at the doll body thereafter.



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## CLAIMS

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### [Claim(s)]

[Claim 1] The manufacture approach of the doll object characterized by filling up the interior of the above-mentioned envelope section with a filler while consisting of the idiosoma, arm, and foot of a doll, fabricating the envelope section of the hollow in which the neck carried out opening for an elastic material and inserting the frame section of a doll in the interior of the above-mentioned envelope section from the above-mentioned neck.

[Claim 2] Beforehand, fabricate the arm frame section corresponding to the arm of a doll, and the fabricated arm frame section is connected with the shoulder of a mold, while fabricating the idiosoma and the foot of a doll. A mold is set to the dies body of the metal mold which fabricates the envelope section of a doll while the arm frame section was connected. The envelope section is fabricated to one for an elastic material with the arm which carried out the interior of the arm frame section with injection shaping. The manufacture approach of the doll object characterized by filling up the interior of the above-mentioned envelope section with a filler after inserting the frame section of a doll in the interior of the fabricated envelope section and connecting this frame section and the above-mentioned arm frame section.

[Claim 3] The manufacture approach of the doll object [ a little thinner than the flecion of the frame section ] according to claim 1 or 2 in the part corresponding to [ prepare a bendable flecion in said frame section, and ] the above-mentioned flecion of said envelope section which narrows and forms the section.

[Claim 4] The manufacture approach of the doll object of claim 3 \*\* which fabricates the part corresponding to the flecion of said frame section in the condition of having bent in the crookedness direction beforehand in case said envelope section is fabricated.

[Claim 5] The manufacture approach of the doll object according to claim 1 or 2 which projected and formed the rib in the inside of the part which said envelope section wants to bulge by migration of said filler.

[Claim 6] The manufacture approach of a doll object according to claim 1 or 2 that a material with said elasticity is an elastomer.

[Claim 7] The manufacture approach of a doll object according to claim 1 or 2 that a material with said elasticity is silicone rubber.

[Claim 8] The manufacture approach of the doll object according to claim 1 or 2 which is a high-polymer absorbent to which said filler absorbs moisture and expands.

[Claim 9] The manufacture approach of a doll object according to claim 1 or 2 that said filler is a starch sirup.

## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the manufacture approach of the doll object which inserts the frame section in the interior of the envelope section of the hollow fabricated to the bodily shape of a doll, is further filled up with a filler, and builds a doll object with an elastic material.

[0002]

[Description of the Prior Art] While an arm and a foot are formed possible [ bending ], making them deform and carrying out various postures conventionally, various clothes are dressed with, enjoyed, dressed with and changed, and doll play is accepted in the girl. As this doll is shown in drawing 11 (a), an arm 61 and the leg 62 are connected rotatable, further, an arm 61 is formed in idiosoma 60 possible [ bending ] from an elbow 63, and the leg 62 is formed in it possible [ bending ] from the knee 64.

[0003]

[Problem(s) to be Solved by the Invention] However, when an above-mentioned doll is dressed with clothes Even if it dresses with long-sleeved dress and a part for the flexion of a shoulder or an elbow can prevent from exposing in the case of the doll with which the doll imitated the girl When a skirt board was made to wear, it could not avoid, but as shown in drawing 11 (b), the structure of the joint part of a knee 64 could not but be exposed, and exposure of a part in the knees could not but become an unnatural doll. Therefore, the doll which the structure of a joint part does not expose is indicated by the Japanese-Patent-Application-No. No. 179603 [ 61 to ] official report. This doll prepares an elasticity resin layer for an arm or the leg in the interior of the envelope layer made of synthetic resin, and this envelope layer. Furthermore, the part at which it turns although the condition of having bent the condition of having laid underground and bent flexible core materials, such as a wire, inside the elasticity resin layer since the core material memorized the configuration can be held was not limited, and had the problem which there is a limitation also in crookedness of an elasticity resin layer, and adopts the unnatural way of being straight.

[0004] Let it be the technical problem to offer the manufacture approach of the doll object which can be made crooked in the more natural condition, without making the envelope section of a flexion generate unnatural deformation, when this invention cancels the above-mentioned trouble and the turnable part of a doll object is bent.

[0005]

[Means for Solving the Problem] In order to solve said technical problem, while the manufacture approach of the doll object concerning this invention consists of the idiosoma, arm, and foot of a doll, fabricating the envelope section of the hollow in which the neck carried out opening for an elastic material and inserting the frame section of a doll in the interior of the above-mentioned envelope section from the above-mentioned neck, it is characterized by filling up the interior of the above-mentioned envelope section with a filler.

[0006] Moreover, beforehand, fabricate the arm frame section corresponding to the arm of a doll, and the fabricated arm frame section is connected with the shoulder of a mold, while fabricating the idiosoma and the foot of a doll. A mold is set to the dies body of the metal mold which fabricates the envelope section of a doll while the arm frame section was connected. After inserting the frame section of a doll in the interior of the envelope section which fabricated the envelope section to one and was fabricated with the arm which carried out the interior of the arm frame section with injection shaping for the elastic material and connecting this frame section and the above-mentioned arm frame section, it is characterized by filling up the interior of the above-mentioned envelope section with a filler.

[0007] in addition, a little thinner in the part corresponding to [ prepare a bendable

flection in said frame section, and ] the above-mentioned flection of said envelope section than the flection of the frame section -- it narrows and the section may be formed.

[0008] Moreover, in case said envelope section is fabricated, it is desirable to fabricate the part corresponding to the flection of said frame section in the condition of having bent in the crookedness direction beforehand.

[0009] And a rib may be projected and formed in the inside of the part which wants to bulge by migration of said filler at said envelope section.

[0010] In addition, it is desirable that a material with said elasticity is an elastomer.

[0011] Moreover, a material with said elasticity may be silicone rubber.

[0012] And it is desirable that it is the high-polymer absorbent to which said filler absorbs moisture and expands.

[0013] And said filler may be a starch sirup again.

[0014]

[Embodiment of the Invention] In drawing 1 , Sign A shows the doll A formed by the manufacture approach of the doll object concerning this invention. This doll A consists of idiosoma 1a and arm 1b which were formed for the material which has elasticity, and leg 1c. By the approach of being filled up with a filler 4 after inserting the frame section 2 assembled beforehand in the interior of the envelope section 1 in which 1d of necks carried out opening, extending the opening 3 of 1d of necks, pouring in moisture further, and expanding a filler 4, a doll object is formed and a head 5 is attached in the formed doll object.

[0015] For the material which has elasticity, the envelope section 1 is fabricated so that 1d of necks may carry out opening of idiosoma 1a, arm 1b, and leg 1c of a doll by hollow without a joint with injection shaping. As long as the above-mentioned envelope section 1 has elasticity, it may not be limited to an elastomer, and this envelope section 1 may be what carried out injection shaping of the elastomer (thermoplastic elastomer) which shows rubber elasticity in ordinary temperature without [ with an internal mold ] the upper and lower sides, and it may be silicone rubber.

[0016] The frame sections 2 are synthetic resin, such as plastics, as shown in drawing 2 . The idiosoma material 10, The 1st frame member 11 which imitated the humerus, and the 2nd frame member 12 which imitated the radius, The 3rd frame member 13 which imitated the bone of hand, and the 4th frame member 14 which imitated the hipbone, It consists of the 5th frame member 15 which imitated the femur, a connection member 16 which imitated the patella, the 6th frame member 17 which imitated the tibia, and the 7th frame member 18 which imitated foot bones, each part is connected beforehand, and the frame section 2 is formed.

[0017] It is the material which senses a certain amount of [ a filler 4 has a high fluidity, when pouring into the envelope section 1, and / when the envelope section 1 is touched from an outside after impregnation ] hardness, flows easily [ when external pressure is moreover applied ], and is easy to transform the envelope section 1. And even when a small blemish is made to the envelope section 1 (for example, it poked with the needle), what does not flow out of the wound is desirable, and the high-polymer absorbent (absorptivity polymer) is suitable as a material of the filler 4 which fulfills these conditions. It is because it seems that moisture will not come out even if a pressure is applied so that it may not flow out of there if it is a small blemish even if this absorptivity polymer 4 absorbs moisture, and expands, the absorptivity polymer 4 which absorbed

moisture expands and a blemish is made to the envelope section 1. In addition, the above-mentioned filler may not be limited to an absorptivity polymer, and may be a starch sirup. [0018] And after inserting the frame section 2, extending the opening 3 formed in 1d of necks of the above-mentioned envelope section 1 as shown in drawing 3 (a), the absorptivity polymer (henceforth a polymer) 4 which was made to absorb the moisture of optimum dose beforehand and was made into the shape of jelly is poured in from opening 3, and the inside of the envelope section 1 is filled up with a polymer 4 (refer to drawing 3 (b)). If restoration is completed, while making a plug 20 opening 3 so that a polymer 4 may not leak and binding with the conclusion members 21, such as yarn, it fixes with adhesives and the circumference of a neck is closed (refer to drawing 3 (c)). Form in a plug 20 the thin through tube (not shown) penetrated up and down, and moisture is poured in into the envelope section 1 through this through tube. After making a polymer 4 absorb moisture so that a clearance may not be made in the envelope section 1, What is necessary is to insert in a through tube axis 23a of the joint member 23 which carries out the joint of the head 5, to plug up opening 3 completely, to form a doll object so that a polymer 4 may not leak, and just to complete a doll by carrying out the joint of the head 5 to the joint member 23.

[0019] In addition, before inserting the frame section in the envelope section, it is desirable to pour in the filler which the polymer was made to absorb moisture beforehand and was made into the shape of jelly to the knee of the leg and the elbow neighborhood of an arm. That is because the trouble which cannot be well poured in to an end can be avoided when a jelly-like polymer is poured in, after inserting the frame section.

[0020] Moreover, in order to correct the configuration of a specific part, moisture may be poured in at pinpoint with an instrument like the thin syringe of the needle point. However, it is required for the configuration of the hole made by the needle point to be smaller than the magnitude of the polymer which absorbed moisture enough.

[0021] When the doll object manufactured as mentioned above is supplied since the frame section 2 is arranged inside the envelope section 1 formed for the material which has elasticity and the interior of this envelope section 1 is filled up with the filler 4, and the envelope section 1 is touched, a natural feel with which \*\* is also touching the body is acquired. And since it does not turn at the frame section 2 from any parts other than the connection section since each frame member is connected rotatable, and its joining segment moreover cannot be seen from the outside, it can carry out bending \*\*\*\*\* of a knee or the waist in the natural condition.

[0022] Since according to this doll object a doll object is formed in the envelope section without a joint and all joining segments cannot be seen from an appearance as shown in drawing 4, it can dress with the sleeveless shirt 25 and sleeveless miniskirt 26 which a shoulder, an elbow, and a knee expose, and can also dress with the swimming suit (not shown) which the lumbar part exposes, and the doll with which the object to wear is not limited can be realized.

[0023] Next, the arm frame section corresponding to the arm of the frame section is beforehand fabricated with the envelope section, the frame section without the arm frame section is inserted in the envelope section, and after making the arm frame section and the frame section which are formed in the envelope section connect, the approach which is filled up with a filler and makes a doll object is explained.

[0024] First, injection shaping of the arm frame section 35 which consists of the 1st [

which makes the wire which has flexibility a core material 30, sets predetermined spacing, and imitates a humerus ] arm frame member 32 by which the fitting projected part 31 was formed in the edge, the 2nd arm frame member 33 which imitated the radius, and the 3rd arm frame member 34 which imitated the bone of hand as shown in drawing 5 is carried out by olefin system resin, such as polypropylene. The boss 36 is connected and formed in the 3rd arm frame section 34 at this time.

[0025] Since the core material 30 with flexibility has exposed the part equivalent to the joint section, such as a wrist and an elbow, the arm frame section 35 made with injection shaping can be crooked from the part of the core material 30, and since it was made not to be crooked when a frame member was moreover made from hard resin, it does not carry out unnatural deformation which is crooked from the middle of the overarm section, for example.

[0026] And the fitting projected part 31 of the arm frame section 35 formed as mentioned above is inserted in the fitting crevice 41 formed in the shoulder of a mold 40 among envelope section molding dice, and it changes into the condition that the arm frame section 35 was connected with the part equivalent to the both shoulders of the inner mold 40, and where the arm frame section 35 is connected, as shown in drawing 6, the inner mold 40 is set to a dies body 42. At this time, the boss 36 is fixed to the dies body 42 so that the arm frame section 35 may not move within a dies body 42 at the time of injection molding. And a dies body is put from on the inner mold 40, an elastomer is injected, after carrying out injection shaping, mold goods are sampled the whole inner mold 40, and the inside mold 40 is further sampled from mold goods. Mold goods can sample the inner mold 40 easily, extending a neck, since it is made from the elastomer which has elasticity. As for the mold goods which sampled the inner mold 40, the envelope section 1 is formed with the arm in the condition that idiosoma and the leg are hollow and connoted the arm frame section 35 (refer to drawing 7 (a)). The boss 36 is separated at this time.

[0027] And the parts which constitute frame members other than an arm are fabricated beforehand, it finishes setting up parts, and the frame section 45 is assembled. The fitting crevice 48 which carries out fitting of the fitting projected part 31 of the arm frame section 35 is formed in the shoulder 47 supported to revolve by the idiosoma 46 of this frame section 45 rotatable.

[0028] And after inserting the frame section 45 which it finished setting up, extending the opening 3 of 1d of necks and inserting the frame section 45, the fitting crevice 48 formed in the shoulder 47 of the frame section 45 is made to carry out fitting of the fitting projected part 31 of the arm frame section 35, and it changes into the condition that the frame section 45 and the arm frame section 35 were connected (refer to drawing 7 (b)).

[0029] And what is necessary is to pour in the polymer 4 made into the shape of jelly from opening 3, and just to fill up the inside of the envelope section 1 with a polymer 4.

[0030] Since there is no part of an arm in the frame section 45 which it finished setting up beforehand, the doll object completed as mentioned above can be smoothly inserted, in case it inserts in the envelope section 1. And since the arm is fabricated with the envelope section 1 where the arm frame section 35 is incorporated beforehand After inserting the frame section 45, a frame can be easily formed in the doll inside of the body by connecting with the arm frame section 35, while being able to relieve the activity which puts in the complicated frame section from opening of a neck, the load concerning

opening of the envelope section can be mitigated and damage on opening can be prevented.

[0031] Next, when the flection (for example, knee region) prepared in the frame section is bent, the manufacture approach of the doll object which a wrinkle does not generate is explained to the envelope section.

[0032] first, as shown in drawing 8 , the part corresponding to a flection to the flection (for example, knee region) of the frame section 2 which consists of the 5th frame member 15, a connection member 16, and the 6th frame member 17 is thinner than the flection of the frame section 2 -- injection shaping of the envelope section 1 is carried out so that it may narrow and the section 50 may be made.

[0033] Thus, it inserts, inserting the frame section 2 in the envelope section 1 in which it narrowed and the section 50 was formed from opening of a neck like the above-mentioned envelope section, and the envelope section 1 narrowing the knee region of the frame section 2 in it, and making it extend the section 50.

[0034] When the doll object which inserted the frame section in envelope circles by the above-mentioned approach is bent from a flection, the envelope section 1 currently elongated narrows, outside 50a of the section 50 is elongated further, but since inside 50b acts in the direction to contract, even if it may be shortened by it, it can cancel unnatural deformation of the envelope section generated when an approach wrinkle did not occur and bends. In addition, a \*\*\*\* narrows, and the section is not limited to a part in the knees, for example, may be formed in an abdomen. When the upper part of the body is bent by this, approaching an abdomen front and right and left and generating a wrinkle is lost.

[0035] And when the flection (for example, knee region) prepared in the frame section is bent, other manufacture approaches of the doll object which a wrinkle does not generate are explained to the envelope section.

[0036] When the flection (for example, knee region) of the frame section is bent, this doll object fabricates the size of the envelope section of the part corresponding to the flection (for example, knee region) of the frame section in the condition thinner than the flection of the frame section of having bent beforehand while narrowing and forming the section, so that a wrinkle may not occur in the envelope section. As shown in drawing 9 , this should just carry out injection shaping of the envelope section 1 using a mold 52 and a dies body 53, while in the condition of having bent the part in the knees in the ups-and-downs direction beforehand. When a knee is lengthened, while the envelope on a background in the knees develops, when according to this envelope section 1 the envelope on a side front in the knees contracts and a knee is bent While the envelope on a background in the knees contracts, when the envelope on a side front in the knees develops and a knee is lengthened Since one of front flesh sides in the knees does not expand and contract on a target on the other hand since the envelope on a background in the knees develops while the envelope on a side front in the knees contracts, and a front flesh side expands and contracts similarly, the doll object which has a still more natural flection can be offered.

[0037] Moreover, a rib 55 may be projected and formed in the inside of the hip of the envelope section 1 as shown in drawing 10 (a). Although the whole hip will bulge and the crack of a hip will also be projected by this as shown in drawing 10 (b) if there is no rib 55 when a doll object is bent from the part of the waist, the part of a crack cannot be



projected but can be made to transform the envelope section in a natural form by forming a rib 55, as shown in drawing 10 (c). Thus, when a filler 4 moves and it makes the envelope section 1 generate deformation, by preparing a rib in the inside of the part which he does not want to make deform, generating of unnatural deformation can be suppressed and the doll object which deforms into nature more can be formed.

[0038]

[Effect of the Invention] According to invention of claim 1, it can dress with the swimming suit which DRESS which a shoulder exposes, and the waist expose since a joint is not visible to a part for a flection from an appearance, and the object which dresses a doll with a flection on clothes since there is no wrap need is not limited.

[0039] Moreover, since the unnatural way of being straight depending on which it bends except the part at which it should turn is not adopted when a doll toy is transformed, since it is formed so that the frame section may bend from a flection, a more natural doll can be offered.

[0040] Since according to invention of claim 2 the frame of the part of an arm can be removed from the frame section by forming the frame of the part of an arm with the envelope section beforehand in case the frame section is put into the envelope section made beforehand afterwards, it becomes easy to insert the frame section in envelope circles, and there are also few amounts of extension of a neck, it ends, and what hurts its envelope section at the time of extension is lost.

[0041] When according to invention of claim 3 inserting the frame section, and the envelope section will be elongated and a flection is bent since the part of the envelope section corresponding to the flection of the frame section was made thinner than a flection, the envelope section inside a flection can act so that it may contract, and can prevent slack and the excessive formation of wrinkles.

[0042] Since it is lost that one of front flesh sides in the knees expands and contracts on a target on the other hand since the envelope on a side front in the knees develops while the envelope on a background in the knees contracts when according to invention of claim 4 the envelope on a side front in the knees contracts and a knee is bent, while the envelope on a background in the knees develops, when a knee is lengthened, the doll object which has a still more natural flection can be offered.

[0043] When a doll object is made to transform, it can be lost that an internal filler moves and the part I do not want you to deform bulges, and a doll object can be made to transform in a natural form according to invention of claim 5.

[0044] Since the frame section can be inserted in envelope circles from a thin neck by making the envelope section into an elastomer according to invention of claims 6 and 7, there is no joint etc. in the envelope section and the doll object of a natural condition can be formed.

[0045] By making a filler into the high-polymer absorbent which absorbs moisture and expands according to invention of claim 8, if the damage produced in the envelope section is small, a filler will not flow out. According to invention of claim 9, the feel when pushing the envelope section is good, and, moreover, cannot flow out of the damage section produced in the envelope section easily.

## TECHNICAL FIELD

[Field of the Invention] This invention relates to the manufacture approach of the doll object which inserts the frame section in the interior of the envelope section of the hollow fabricated to the bodily shape of a doll, is further filled up with a filler, and builds a doll object with an elastic material.

## PRIOR ART

[Description of the Prior Art] While an arm and a foot are formed possible [ bending ], making them deform and carrying out various postures conventionally, various clothes are dressed with, enjoyed, dressed with and changed, and doll play is accepted in the girl. As this doll is shown in drawing 11 (a), an arm 61 and the leg 62 are connected rotatable, further, an arm 61 is formed in idiosoma 60 possible [ bending ] from an elbow 63, and the leg 62 is formed in it possible [ bending ] from the knee 64.  
[0003]

## EFFECT OF THE INVENTION

[Effect of the Invention] According to invention of claim 1, it can dress with the swimming suit which DRESS which a shoulder exposes, and the waist expose since a joint is not visible to a part for a flexion from an appearance, and the object which dresses a doll with a flexion on clothes since there is no wrap need is not limited.  
[0039] Moreover, since the unnatural way of being straight depending on which it bends except the part at which it should turn is not adopted when a doll toy is transformed, since it is formed so that the frame section may bend from a flexion, a more natural doll can be offered.  
[0040] Since according to invention of claim 2 the frame of the part of an arm can be removed from the frame section by forming the frame of the part of an arm with the envelope section beforehand in case the frame section is put into the envelope section made beforehand afterwards, it becomes easy to insert the frame section in envelope circles, and there are also few amounts of extension of a neck, it ends, and what hurts its envelope section at the time of extension is lost.  
[0041] When according to invention of claim 3 inserting the frame section, and the envelope section will be elongated and a flexion is bent since the part of the envelope section corresponding to the flexion of the frame section was made thinner than a flexion, the envelope section inside a flexion can act so that it may contract, and can prevent slack and the excessive formation of wrinkles.  
[0042] Since it is lost that one of front flesh sides in the knees expands and contracts on a target on the other hand since the envelope on a side front in the knees develops while the envelope on a background in the knees contracts when according to invention of claim 4 the envelope on a side front in the knees contracts and a knee is bent, while the envelope on a background in the knees develops, when a knee is lengthened, the doll object which has a still more natural flexion can be offered.  
[0043] When a doll object is made to transform, it can be lost that an internal filler moves and the part I do not want you to deform bulges, and a doll object can be made to

transform in a natural form according to invention of claim 5.

[0044] Since the frame section can be inserted in envelope circles from a thin neck by making the envelope section into an elastomer according to invention of claims 6 and 7, there is no joint etc. in the envelope section and the doll object of a natural condition can be formed.

[0045] By making a filler into the high-polymer absorbent which absorbs moisture and expands according to invention of claim 8, if the damage produced in the envelope section is small, a filler will not flow out. According to invention of claim 9, the feel when pushing the envelope section is good, and, moreover, cannot flow out of the damage section produced in the envelope section easily.

## TECHNICAL PROBLEM

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[Problem(s) to be Solved by the Invention] However, when an above-mentioned doll is dressed with clothes Even if it dresses with long-sleeved dress and a part for the flexion of a shoulder or an elbow can prevent from exposing in the case of the doll with which the doll imitated the girl When a skirt board was made to wear, it could not avoid, but as shown in drawing 11 (b), the structure of the joint part of a knee 64 could not but be exposed, and exposure of a part in the knees could not but become an unnatural doll. Therefore, the doll which the structure of a joint part does not expose is indicated by the Japanese-Patent-Application-No. No. 179603 [ 61 to ] official report. This doll prepares an elasticity resin layer for an arm or the leg in the interior of the envelope layer made of synthetic resin, and this envelope layer. Furthermore, the part at which it turns although the condition of having bent the condition of having laid underground and bent flexible core materials, such as a wire, inside the elasticity resin layer since the core material memorized the configuration can be held was not limited, and had the problem which there is a limitation also in crookedness of an elasticity resin layer, and adopts the unnatural way of being straight.

[0004] Let it be the technical problem to offer the manufacture approach of the doll object which can be made crooked in the more natural condition, without making the envelope section of a flexion generate unnatural deformation, when this invention cancels the above-mentioned trouble and the turnable part of a doll object is bent.

## MEANS

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[Means for Solving the Problem] In order to solve said technical problem, while the manufacture approach of the doll object concerning this invention consists of the idiosoma, arm, and foot of a doll, fabricating the envelope section of the hollow in which the neck carried out opening for an elastic material and inserting the frame section of a doll in the interior of the above-mentioned envelope section from the above-mentioned neck, it is characterized by filling up the interior of the above-mentioned envelope section with a filler.

[0006] Moreover, beforehand, fabricate the arm frame section corresponding to the arm of a doll, and the fabricated arm frame section is connected with the shoulder of a mold, while fabricating the idiosoma and the foot of a doll. A mold is set to the dies body of the metal mold which fabricates the envelope section of a doll while the arm frame section

was connected. After inserting the frame section of a doll in the interior of the envelope section which fabricated the envelope section to one and was fabricated with the arm which carried out the interior of the arm frame section with injection shaping for the elastic material and connecting this frame section and the above-mentioned arm frame section, it is characterized by filling up the interior of the above-mentioned envelope section with a filler.

[0007] in addition, a little thinner in the part corresponding to [ prepare a bendable flection in said frame section, and ] the above-mentioned flection of said envelope section than the flection of the frame section -- it narrows and the section may be formed.

[0008] Moreover, in case said envelope section is fabricated, it is desirable to fabricate the part corresponding to the flection of said frame section in the condition of having bent in the crookedness direction beforehand.

[0009] And a rib may be projected and formed in the inside of the part which wants to bulge by migration of said filler at said envelope section.

[0010] In addition, it is desirable that a material with said elasticity is an elastomer.

[0011] Moreover, a material with said elasticity may be silicone rubber.

[0012] And it is desirable that it is the high-polymer absorbent to which said filler absorbs moisture and expands.

[0013] And said filler may be a starch sirup again.

[0014]

[Embodiment of the Invention] In drawing 1 , Sign A shows the doll A formed by the manufacture approach of the doll object concerning this invention. This doll A consists of idiosoma 1a and arm 1b which were formed for the material which has elasticity, and leg 1c. By the approach of being filled up with a filler 4 after inserting the frame section 2 assembled beforehand in the interior of the envelope section 1 in which 1d of necks carried out opening, extending the opening 3 of 1d of necks, pouring in moisture further, and expanding a filler 4, a doll object is formed and a head 5 is attached in the formed doll object.

[0015] For the material which has elasticity, the envelope section 1 is fabricated so that 1d of necks may carry out opening of idiosoma 1a, arm 1b, and leg 1c of a doll by hollow without a joint with injection shaping. As long as the above-mentioned envelope section 1 has elasticity, it may not be limited to an elastomer, and this envelope section 1 may be what carried out injection shaping of the elastomer (thermoplastic elastomer) which shows rubber elasticity in ordinary temperature without [ with an internal mold ] the upper and lower sides, and it may be silicone rubber.

[0016] The frame sections 2 are synthetic resin, such as plastics, as shown in drawing 2 . The idiosoma material 10, The 1st frame member 11 which imitated the humerus, and the 2nd frame member 12 which imitated the radius, The 3rd frame member 13 which imitated the bone of hand, and the 4th frame member 14 which imitated the hipbone, It consists of the 5th frame member 15 which imitated the femur, a connection member 16 which imitated the patella, the 6th frame member 17 which imitated the tibia, and the 7th frame member 18 which imitated foot bones, each part is connected beforehand, and the frame section 2 is formed.

[0017] It is the material which senses a certain amount of [ a filler 4 has a high fluidity, when pouring into the envelope section 1, and / when the envelope section 1 is touched from an outside after impregnation ] hardness, flows easily [ when external pressure is

moreover applied ], and is easy to transform the envelope section 1. And even when a small blemish is made to the envelope section 1 (for example, it poked with the needle), what does not flow out of the wound is desirable, and the high-polymer absorbent (absorptivity polymer) is suitable as a material of the filler 4 which fulfills these conditions. It is because it seems that moisture will not come out even if a pressure is applied so that it may not flow out of there if it is a small blemish even if this absorptivity polymer 4 absorbs moisture, and expands, the absorptivity polymer 4 which absorbed moisture expands and a blemish is made to the envelope section 1. In addition, the above-mentioned filler may not be limited to an absorptivity polymer, and may be a starch sirup. [0018] And after inserting the frame section 2, extending the opening 3 formed in 1d of necks of the above-mentioned envelope section 1 as shown in drawing 3 (a), the absorptivity polymer (henceforth a polymer) 4 which was made to absorb the moisture of optimum dose beforehand and was made into the shape of jelly is poured in from opening 3, and the inside of the envelope section 1 is filled up with a polymer 4 (refer to drawing 3 (b)). If restoration is completed, while making a plug 20 opening 3 so that a polymer 4 may not leak and binding with the conclusion members 21, such as yarn, it fixes with adhesives and the circumference of a neck is closed (refer to drawing 3 (c)). Form in a plug 20 the thin through tube (not shown) penetrated up and down, and moisture is poured in into the envelope section 1 through this through tube. After making a polymer 4 absorb moisture so that a clearance may not be made in the envelope section 1, What is necessary is to insert in a through tube axis 23a of the joint member 23 which carries out the joint of the head 5, to plug up opening 3 completely, to form a doll object so that a polymer 4 may not leak, and just to complete a doll by carrying out the joint of the head 5 to the joint member 23.

[0019] In addition, before inserting the frame section in the envelope section, it is desirable to pour in the filler which the polymer was made to absorb moisture beforehand and was made into the shape of jelly to the knee of the leg and the elbow neighborhood of an arm. That is because the trouble which cannot be well poured in to an end can be avoided when a jelly-like polymer is poured in, after inserting the frame section.

[0020] Moreover, in order to correct the configuration of a specific part, moisture may be poured in at pinpoint with an instrument like the thin syringe of the needle point. However, it is required for the configuration of the hole made by the needle point to be smaller than the magnitude of the polymer which absorbed moisture enough.

[0021] When the doll object manufactured as mentioned above is supplied since the frame section 2 is arranged inside the envelope section 1 formed for the material which has elasticity and the interior of this envelope section 1 is filled up with the filler 4, and the envelope section 1 is touched, a natural feel with which \*\* is also touching the body is acquired. And since it does not turn at the frame section 2 from any parts other than the connection section since each frame member is connected rotatable, and its joining segment moreover cannot be seen from the outside, it can carry out bending \*\*\*\*\* of a knee or the waist in the natural condition.

[0022] Since according to this doll object a doll object is formed in the envelope section without a joint and all joining segments cannot be seen from an appearance as shown in drawing 4 , it can dress with the sleeveless shirt 25 and sleeveless miniskirt 26 which a shoulder, an elbow, and a knee expose, and can also dress with the swimming suit (not shown) which the lumbar part exposes, and the doll with which the object to wear is not

limited can be realized.

[0023] Next, the arm frame section corresponding to the arm of the frame section is beforehand fabricated with the envelope section, the frame section without the arm frame section is inserted in the envelope section, and after making the arm frame section and the frame section which are formed in the envelope section connect, the approach which is filled up with a filler and makes a doll object is explained.

[0024] First, injection shaping of the arm frame section 35 which consists of the 1st [ which makes the wire which has flexibility a core material 30, sets predetermined spacing, and imitates a humerus ] arm frame member 32 by which the fitting projected part 31 was formed in the edge, the 2nd arm frame member 33 which imitated the radius, and the 3rd arm frame member 34 which imitated the bone of hand as shown in drawing 5 is carried out by olefin system resin, such as polypropylene. The boss 36 is connected and formed in the 3rd arm frame section 34 at this time.

[0025] Since the core material 30 with flexibility has exposed the part equivalent to the joint section, such as a wrist and an elbow, the arm frame section 35 made with injection shaping can be crooked from the part of the core material 30, and since it was made not to be crooked when a frame member was moreover made from hard resin, it does not carry out unnatural deformation which is crooked from the middle of the overarm section, for example.

[0026] And the fitting projected part 31 of the arm frame section 35 formed as mentioned above is inserted in the fitting crevice 41 formed in the shoulder of a mold 40 among envelope section molding dice, and it changes into the condition that the arm frame section 35 was connected with the part equivalent to the both shoulders of the inner mold 40, and where the arm frame section 35 is connected, as shown in drawing 6, the inner mold 40 is set to a dies body 42. At this time, the boss 36 is fixed to the dies body 42 so that the arm frame section 35 may not move within a dies body 42 at the time of injection molding. And a dies body is put from on the inner mold 40, an elastomer is injected, after carrying out injection shaping, mold goods are sampled the whole inner mold 40, and the inside mold 40 is further sampled from mold goods. Mold goods can sample the inner mold 40 easily, extending a neck, since it is made from the elastomer which has elasticity. As for the mold goods which sampled the inner mold 40, the envelope section 1 is formed with the arm in the condition that idiosoma and the leg are hollow and connoted the arm frame section 35 (refer to drawing 7 (a)). The boss 36 is separated at this time.

[0027] And the parts which constitute frame members other than an arm are fabricated beforehand, it finishes setting up parts, and the frame section 45 is assembled. The fitting crevice 48 which carries out fitting of the fitting projected part 31 of the arm frame section 35 is formed in the shoulder 47 supported to revolve by the idiosoma 46 of this frame section 45 rotatable.

[0028] And after inserting the frame section 45 which it finished setting up, extending the opening 3 of 1d of necks and inserting the frame section 45, the fitting crevice 48 formed in the shoulder 47 of the frame section 45 is made to carry out fitting of the fitting projected part 31 of the arm frame section 35, and it changes into the condition that the frame section 45 and the arm frame section 35 were connected (refer to drawing 7 (b)).

[0029] And what is necessary is to pour in the polymer 4 made into the shape of jelly from opening 3, and just to fill up the inside of the envelope section 1 with a polymer 4.

[0030] Since there is no part of an arm in the frame section 45 which it finished setting up beforehand, the doll object completed as mentioned above can be smoothly inserted, in case it inserts in the envelope section 1. And since the arm is fabricated with the envelope section 1 where the arm frame section 35 is incorporated beforehand After inserting the frame section 45, a frame can be easily formed in the doll inside of the body by connecting with the arm frame section 35, while being able to relieve the activity which puts in the complicated frame section from opening of a neck, the load concerning opening of the envelope section can be mitigated and damage on opening can be prevented.

[0031] Next, when the flection (for example, knee region) prepared in the frame section is bent, the manufacture approach of the doll object which a wrinkle does not generate is explained to the envelope section.

[0032] first, as shown in drawing 8 , the part corresponding to a flection to the flection (for example, knee region) of the frame section 2 which consists of the 5th frame member 15, a connection member 16, and the 6th frame member 17 is thinner than the flection of the frame section 2 -- injection shaping of the envelope section 1 is carried out so that it may narrow and the section 50 may be made.

[0033] Thus, it inserts, inserting the frame section 2 in the envelope section 1 in which it narrowed and the section 50 was formed from opening of a neck like the above-mentioned envelope section, and the envelope section 1 narrowing the knee region of the frame section 2 in it, and making it extend the section 50.

[0034] When the doll object which inserted the frame section in envelope circles by the above-mentioned approach is bent from a flection, the envelope section 1 currently elongated narrows, outside 50a of the section 50 is elongated further, but since inside 50b acts in the direction to contract, even if it may be shortened by it, it can cancel unnatural deformation of the envelope section generated when an approach wrinkle did not occur and bends. In addition, a \*\*\*\* narrows, and the section is not limited to a part in the knees, for example, may be formed in an abdomen. When the upper part of the body is bent by this, approaching an abdomen front and right and left and generating a wrinkle is lost.

[0035] And when the flection (for example, knee region) prepared in the frame section is bent, other manufacture approaches of the doll object which a wrinkle does not generate are explained to the envelope section.

[0036] When the flection (for example, knee region) of the frame section is bent, this doll object fabricates the size of the envelope section of the part corresponding to the flection (for example, knee region) of the frame section in the condition thinner than the flection of the frame section of having bent beforehand while narrowing and forming the section, so that a wrinkle may not occur in the envelope section. As shown in drawing 9 , this should just carry out injection shaping of the envelope section 1 using a mold 52 and a dies body 53, while in the condition of having bent the part in the knees in the ups-and-downs direction beforehand. When a knee is lengthened, while the envelope on a background in the knees develops, when according to this envelope section 1 the envelope on a side front in the knees contracts and a knee is bent While the envelope on a background in the knees contracts, when the envelope on a side front in the knees develops and a knee is lengthened Since one of front flesh sides in the knees does not expand and contract on a target on the other hand since the envelope on a background in

the knees develops while the envelope on a side front in the knees contracts, and a front flesh side expands and contracts similarly, the doll object which has a still more natural flexion can be offered.

[0037] Moreover, a rib 55 may be projected and formed in the inside of the hip of the envelope section 1 as shown in drawing 10 (a). Although the whole hip will bulge and the crack of a hip will also be projected by this as shown in drawing 10 (b) if there is no rib 55 when a doll object is bent from the part of the waist, the part of a crack cannot be projected but can be made to transform the envelope section in a natural form by forming a rib 55, as shown in drawing 10 (c). Thus, when a filler 4 moves and it makes the envelope section 1 generate deformation, by preparing a rib in the inside of the part which he does not want to make deform, generating of unnatural deformation can be suppressed and the doll object which deforms into nature more can be formed.

## DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The front view showing the configuration of the doll object concerning this invention

[Drawing 2] The front view of the frame section

[Drawing 3] (a), (b), and (c) are an explanatory view in the condition of attaching the condition which inserts the frame section in the envelope section, the condition which fills up the envelope circles after inserting the frame section with a filler, and a head.

[Drawing 4] The front view explaining the condition of having dressed the doll object with clothes

[Drawing 5] The perspective view explaining the manufacture approach of another example of a doll object

[Drawing 6] The perspective view explaining the metal mold of the doll object of the example according to above

[Drawing 7] (a) and (b) are an important section sectional view explaining the structure of the doll object of the example according to above.

[Drawing 8] The important section sectional view explaining the structure of still more nearly another example of a doll object

[Drawing 9] The sectional view of the metal mold for manufacturing the doll object of other examples

[Drawing 10] (a), (b), and (c) are an important section sectional view explaining the deformation condition of the doll object of the example of further others.

[Drawing 11] (a) and (b) are the explanatory view of the conventional doll.

[Description of Notations]

1 Envelope Section

1d Neck

2 Frame Section

3 Opening

4 Filler

50 Narrow and it is Section.

55 Rib



\* NOTICES \*

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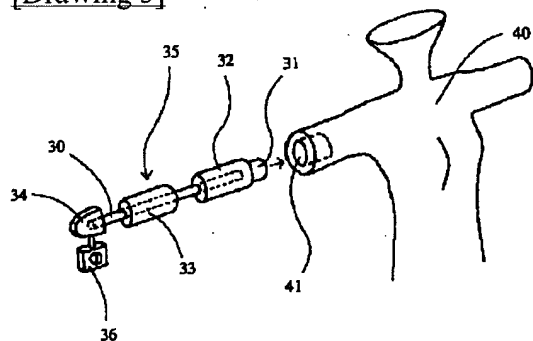
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

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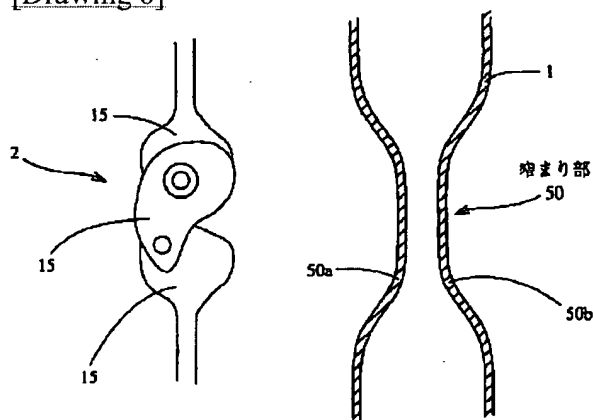
DRAWINGS

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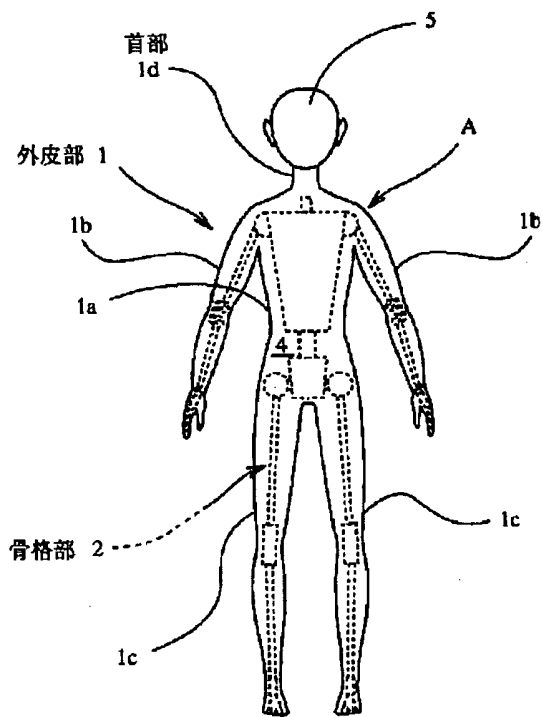
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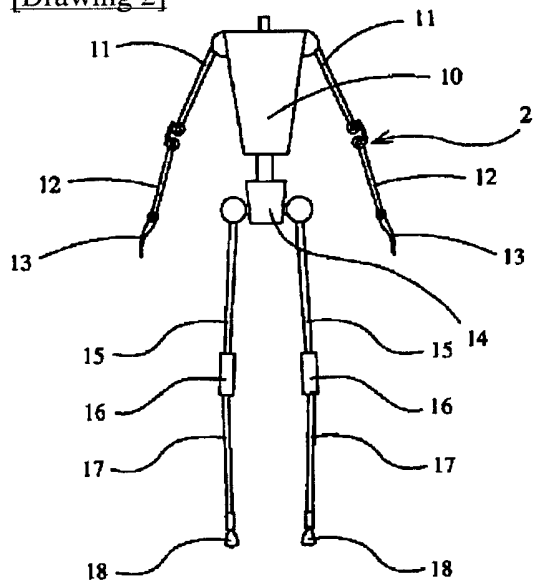
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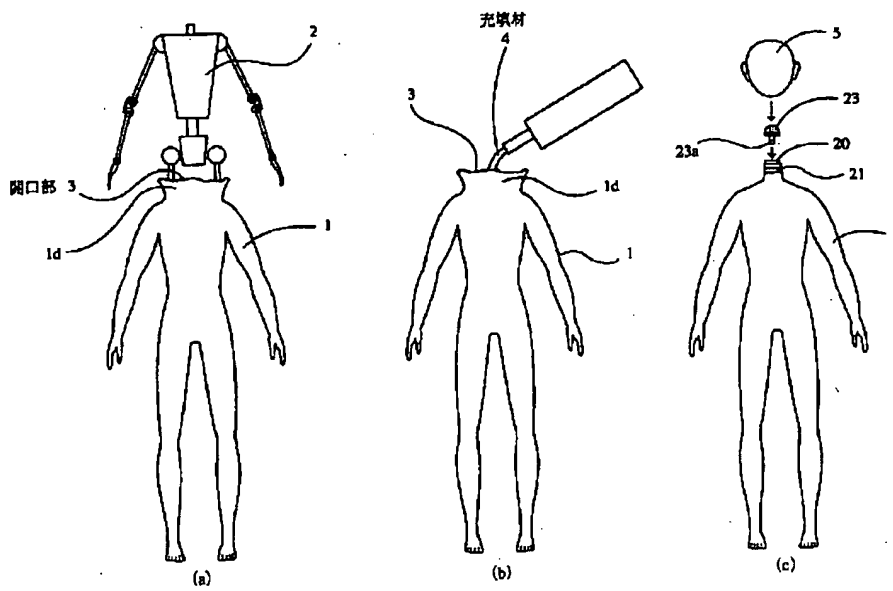
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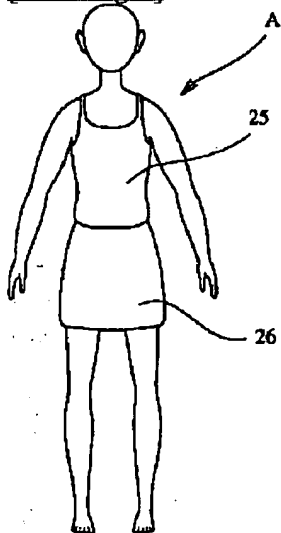
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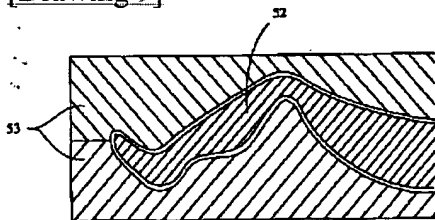
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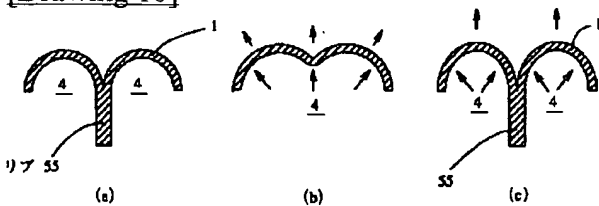
[Drawing 4]



[Drawing 9]

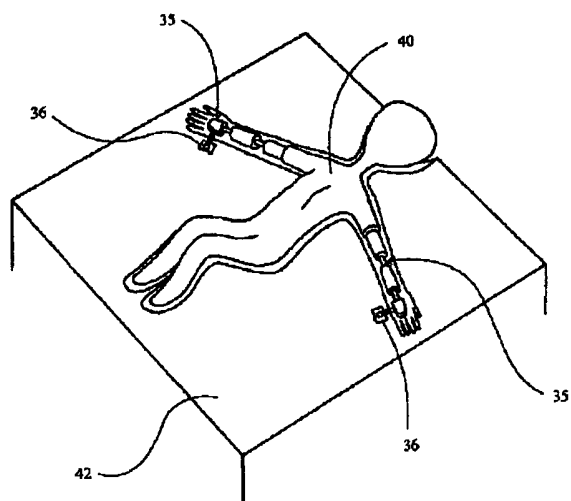


[Drawing 10]

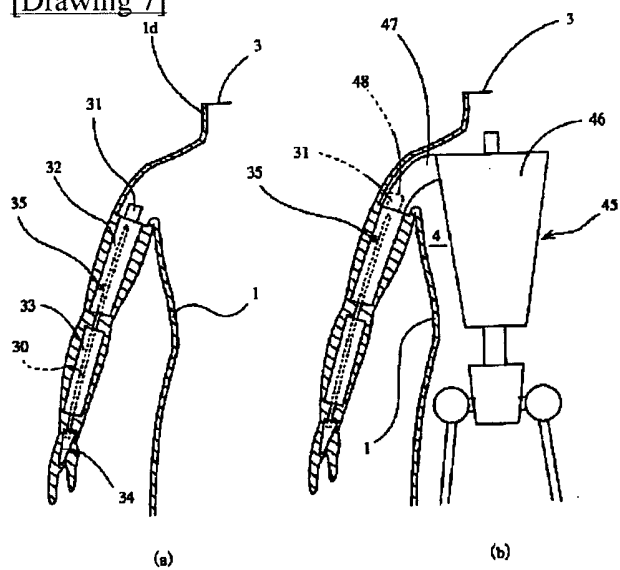


[Drawing 6]

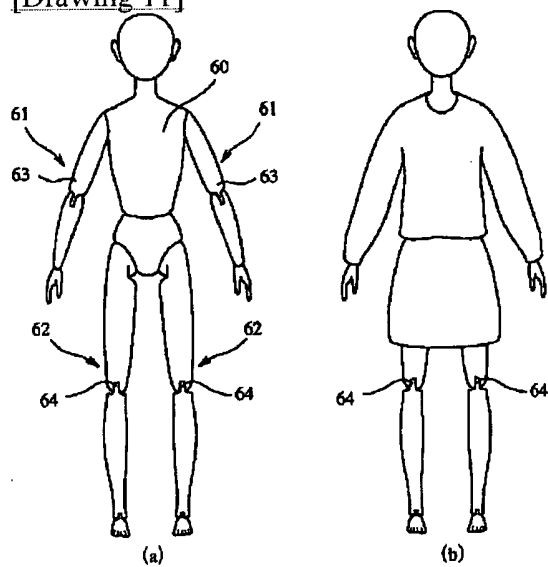
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[Drawing 7]



[Drawing 11]



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